

Use Attainability Analysis

for

WBID 0287 Elkhorn Creek

Submitted by  
Tetra Tech, Inc

To  
Missouri Department of Natural Resources  
Water Protection Program

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet A - Water Body Identification**

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WATER PROTECTION PROGRAM

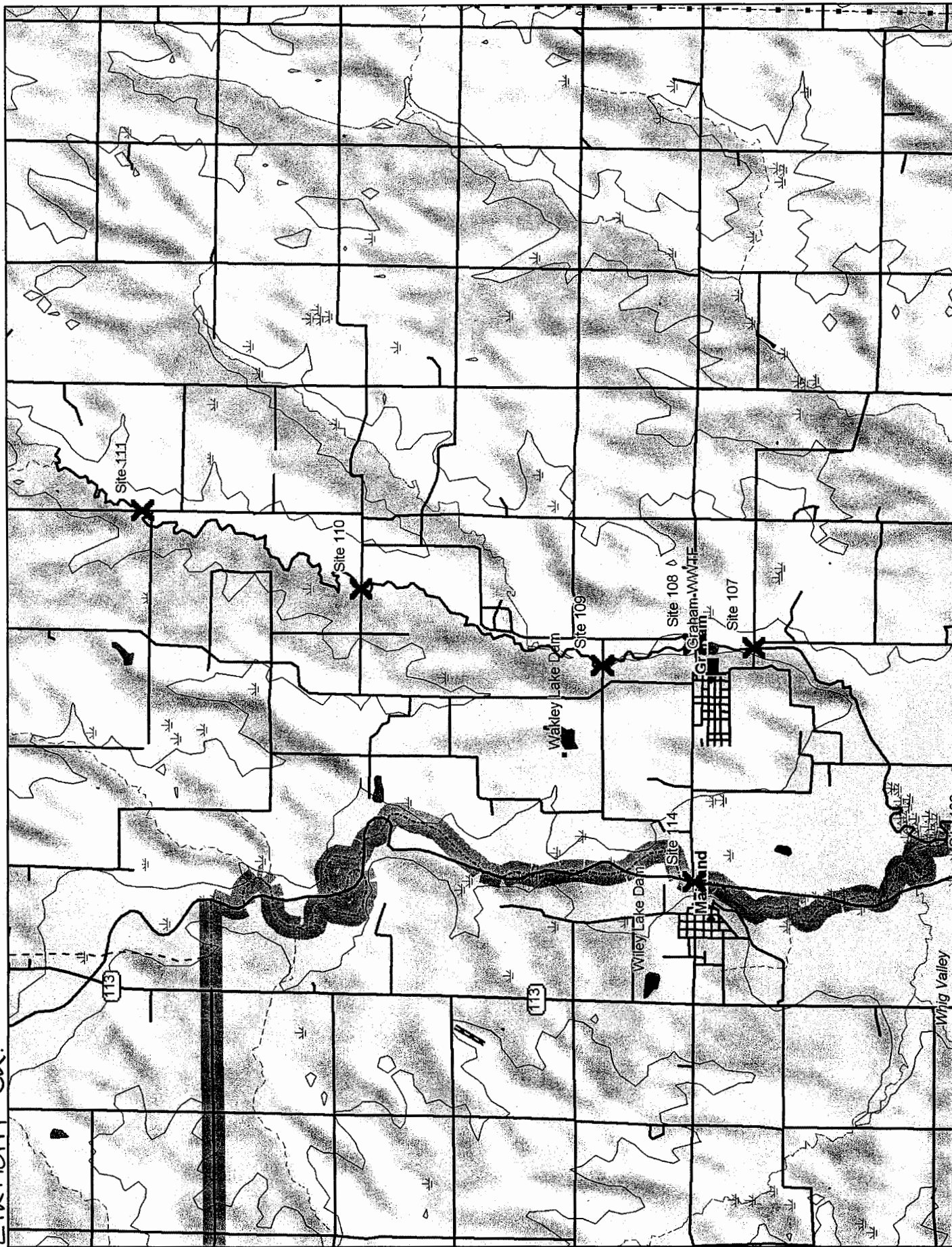
Water Body Name: (from USGS 7.5' quad)	Elkhorn Cr.
8-digit HUC:	0240010
Missouri WBID #:	D287
County:	Nodaway
Upstream Legal Description:	NA
Downstream Legal Description:	NA
Upstream Coordinates: (UGS 84, ddd.dddd)	40.26858°N, 95.01008°W
Downstream Coordinates: (UGS 84, ddd.dddd)	40.19552°N, 95.03202°W
Discharger Facility Name(s):	Graham WWTF
Discharger Permit Number(s):	NA
Number of Sites Evaluated:	6
Name of Surveyor and Telephone Number:	Shannon Prendergast 703-385-6000
Organization:	Tetra Tech
Position:	Scientist

**I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.**

Signed: Shannon Prendergast Date: 7/14/05

*JP 7/14/05*

Elkhorn Ck.



106

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0287</u>	Site Location Description: <u>#111</u>
Site GPS Coordinates: <u>40.26858°N, 95.01008°W</u>	<u>On Fairway Rd</u>
Date & Time: <u>7/10/05 6:30 pm</u>	Facility Name: <u>Graham WATF</u>
Personnel: <u>SP YR</u>	Permit Number: <u>NA</u>
Current Weather Conditions: <u>Sunny hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>
Photo Ids: Upstream: <u>162</u>	Downstream: <u>161</u> Other: <u>NA</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes tough to climb down to	<input checked="" type="checkbox"/> Other: <u>Agriculture, forest</u>	

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads/bridge	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

\*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Site # 10111

## Stream Morphology:

## Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>75</u>	Avg. Depth (ft): <u>1.5</u>	Max. Depth (ft): <u>70 cm</u> <i>8 ft 7/10/05</i>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec):	

## Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>15</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>1.5</u>	Max. Depth (ft): <u>80 cm</u> <i>8 ft 7-10-05</i>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>Not measurable</u>	

Substrate\*: (These values should add up to 100%). *8 ft 7/10/05*

% Cobble	<u>30</u>	% Gravel	<u>60</u>	% Sand	<u>50</u>	% Silt	<u>20</u>	% Mud/Clay	% Bedrock
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## Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

<u>none</u>
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## Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other: <u>brown/green</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

*just downstream from site could be algae*

Comments: Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Sharon Brundage Date: 7/10/05Organization: Tetra Tech Position: Scientist

0287-111-US



0287-111-DS





## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0287</u>	Site Location Description: <u>#110</u> <u>on 330 St.</u>	
Site GPS Coordinates: <u>40.24258</u>		
Date & Time: <u>7/10/05 6:04 pm</u>	Facility Name: <u>Graham WWTF</u>	
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>	
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>	
Photo Ids: Upstream: <u>160</u>	Downstream: <u>159</u>	Other: <u>NA</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Agriculture w/ forest buffer</u>	

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads/bridge	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Some garbage dumped in stream</u>				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

\*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0287</u>	Site Location Description: <u>#109</u>
Site GPS Coordinates: <u>40.21392°N 95.03482°W</u>	
Date & Time: <u>7/10/05</u>	Facility Name: <u>Graham WWTF</u>
Personnel: <u>SR, VR</u>	Permit Number: <u>NA</u>
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>
Photo Ids: Upstream: <u>156</u>	Downstream: <u>155</u> Other: <u>157 (cattle in stream)</u> <u>158 (concrete cobbles)</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> <u>barbed wire fence</u>	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

↓ for cattle across stream

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads <u>bridge</u>	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input checked="" type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

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0287-109-US



0287-109-DS



Site # log

Site # log

Site # log

Site # log

Site # log

Pools under the bridge

Sp 7/10/05

Site # log

Site # log

down: 80%

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10%

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CONFIDENTIAL

Site # log

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G.R. 2/10/05

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0287	Site Location Description: #108
Site GPS Coordinates: 40.20258°N, 95.0311°W	Just past Elkhorn Trail on St. Hwy. A
Date & Time: 7/10/05 4:18 pm	Facility Name: Graham WWTP
Personnel: SP, YR	Permit Number: NA
Current Weather Conditions: Hot Sunny	Weather Conditions for Past 7 days: Sunny, Hot
Photo Ids: Upstream: 148	Downstream: 147
Other: NA	

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Cropland, forest	

#### Evidence of Human Use\*: None

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

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0287-108-US



0287-108-DS





## Stream Morphology:

Site # 108

## Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>15</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>0.75</u>	Max. Depth (ft): <u>1.5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft<sup>3</sup>/18 sec</u> <u>50 7-10-05</u>	

## Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>15</u>	Length (ft): <u>200</u>	Avg. Depth (ft): <u>1.0</u>	Max. Depth (ft): <u>2.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft<sup>3</sup>/16 sec</u> <u>80 7/10/05</u>	

## Substrate\*: (These values should add up to 100%.)

<u>10</u> % Cobble	<u>10</u> % Gravel	<u>60</u> % Sand	% Silt	<u>20</u> % Mud/Clay	% Bedrock
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## Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

<u>Brownish substance on sediment could be algae?</u> <u>or just clay mud or other sediment deposit</u>
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## Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear <u>partially</u>	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky <u>cloudy</u>	<input checked="" type="checkbox"/> Other: <u>brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments <u>could be algae</u>	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam <u>brown</u>	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shawn Pandey Date: 7/10/05  
 Organization: Tutor Tech Position: Sanitary

J. Dr. 7/10/05

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0287</u>	Site Location Description: <u>#107</u>
Site GPS Coordinates: <u>40.19545°N, 95.03167°W</u>	
Date & Time: <u>7/10/05 5:05 pm</u>	Facility Name: <u>Graham WWTF</u>
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>
Photo Ids: Upstream: <u>150</u>	Downstream: <u>151</u> Other: <u>149 (old bridge / road)</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Agriculture/cropland / forest buffer</u>	

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads / <u>bridge</u>	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

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0287-107-US



0287-107-DS





Site # 107

## Stream Morphology:

## Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>100</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec):	<u>5 ft<sup>3</sup>/7 sec</u>

## Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>10</u>	Length (ft): <u>75</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec):	<u>1 ft<sup>3</sup>/sec</u>

## Substrate\*: (These values should add up to 100%.)

<u>10</u> % Cobble	% Gravel	<u>70</u> % Sand	% Silt	<u>20</u> % Mud/Clay	% Bedrock
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## Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

<u>algae on 10% of cobble</u>
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## Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Sharon Brundage Date: 7/10/05Organization: Lata Tech Position: Scientist

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0287</u>	Site Location Description: <u>#106 alt</u>	
Site GPS Coordinates: <u>40.19552°N 95.03202°W</u>	<u>~ 150m downstream of site #107</u>	
Date & Time: <u>7/10/05 5:20 pm</u>	Facility Name: <u>Graham WWTF</u>	
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>	
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, warm</u>	
Photo Ids: Upstream: <u>153</u>	Downstream: <u>152</u>	Other: <u>NA</u> <u>154 = garbage, foamy sludge</u> <u>SP 7/10/05</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Some

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>forest buffer</u> <u>Agriculture/cropland</u>	

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads <u>SP 7-10-05</u>	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Some garbage, may have floated downstream</u>				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

\*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

0287-106-US



0287-106-DS



Site # 106 alt

## Stream Morphology:

## Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>10</u>	Length (ft): <u>50</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft<sup>3</sup> / 8 sec</u> <u>SP 7/10/05</u>	

## Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>12</u>	Length (ft): <u>75</u>	Avg. Depth (ft): <u>1.0</u>	Max. Depth (ft): <u>70 cm</u>
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft<sup>3</sup> / 12 sec</u> <u>SP 7/10/05</u>	

## Substrate\*: (These values should add up to 100%.)

% Cobble	<u>10</u>	% Gravel	<u>60</u>	% Sand		% Silt	<u>30</u>	% Mud/Clay		% Bedrock
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## Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

<u>Some algae on debris/wood</u>
----------------------------------

## Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other: <u>brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum <u>brown</u>	<input checked="" type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shanna Prudergast Date: 7/10/05Organization: Tetra Tech Position: Scientist

SP 7/10/05

Stream Morphology:

Site # 110

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft):	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec):	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>6</u>	Length (ft): <u>75</u>	Avg. Depth (ft): <u>0.25</u>	Max. Depth (ft): <u>0.5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>1 ft/sec</u>	

Substrate\*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	<u>80%</u>	<u>20%</u>			

Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

<u>none</u>
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Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shawn Brundage Date: 7/10/05

Organization: Tetra Tech Position: Scientist



0287-110-US



0287-110-DS



**REVISIT**



**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet A - Water Body Identification**

2005 JUL 14 PM 2:53

WATER PROTECTION PROGRAM

Water Body Name: (from USGS 7.5' quad)	Elkhorn Cr.
8-digit HUC:	16240010
Missouri WBID #:	287
County:	Nodaway
Upstream Legal Description:	NA
Downstream Legal Description:	NA
Upstream Coordinates: (UGS 84, ddd.ddddd)	40.26558°N, 95.01008°W
Downstream Coordinates: (UGS 84, ddd.ddddd)	40.19545°N, 95.03167°W
Discharger Facility Name(s):	Graham WWT
Discharger Permit Number(s):	NA
Number of Sites Evaluated:	5
Name of Surveyor and Telephone Number:	Shannon Prendergast 703-385-6000
Organization:	Tetra Tech, Inc
Position:	Scientist

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shannon Prendergast Date: 7/12/05

*Shannon Prendergast*  
7/12/05

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>0287</u>	Site Location Description: <u>#107 duplicate off of Echo Rd -</u>	
Site GPS Coordinates: <u>40.19545°N, 95.03167°W</u>		
Date & Time: <u>7/12/05</u>	Facility Name: <u>Graham WWTF</u>	
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>	
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>	
Photo Ids: Upstream: <u>216</u>	Downstream: <u>215</u>	Other: <u>217 (remains of old bridge, possibly)</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Talked to a man who lives nearby said no one recreates in the stream here.

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Agriculture/cropland, forest buffer</u>	

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads/Bridge	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Possible old bridge, small amount of garbage under bridge</u>				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

\*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

site 107 duplicate

## Stream Morphology:

## Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>50</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft<sup>3</sup> / 14.3 seconds</u>	

SP 7/11/05

## Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>18</u>	Length (ft): <u>30</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft<sup>3</sup> / 5.8 sec.</u>	

SP 7/12/05

## Substrate\*: (These values should add up to 100%.)

<u>10</u> % Cobble	<u>30</u> % Gravel	<u>60</u> % Sand	% Silt	% Mud/Clay	% Bedrock
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## Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

<u>slight amount of algae on cobbles</u>
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## Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>brownish</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shane Pruech Date: 7/12/05Organization: Tetra Tech Position: Scientist

SP 7/12/05

0287-107-US-Revisited



0287-107-DS-Revisited



## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>287</u>	Site Location Description: <u>108 duplicate on Rd. A in Graham</u>
Site GPS Coordinates: <u>40.20234°N 95.03137°W</u>	
Date & Time: <u>7/12/05 10:20 am</u>	Facility Name: <u>Graham WWTF</u>
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>
Photo Ids: Upstream: <u>228</u>	Downstream: <u>227</u> Other: <u>229 (construction)</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

Construction going on on the bridge today

230 (remains of wooden pillars, old bridge?)

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Agriculture</u>	

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads/bridges	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Concrete slabs dumped, old wooden pillars</u>				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

\*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

site 108 duplicate

## Stream Morphology:

## Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>20</u>	Length (ft): <u>75</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <u>but not measurable</u>	Estimated (ft <sup>3</sup> /sec):	

## Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>17</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft / 23.3 sec</u>	

## Substrate\*: (These values should add up to 100%.)

<u>10</u> % Cobble	<u>30</u> % Gravel	<u>40</u> % Sand	% Silt	<u>20</u> % Mud/Clay	% Bedrock
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## Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

<u>none</u>
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## Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" type="checkbox"/> Gray/brown	<input checked="" type="checkbox"/> Milky/cloudy	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shan Prady Date: 7/12/05Organization: Tetra Tech Position: Scientist

7/12/05



0287-108-US-Revisited



0287-108-DS-Revisited





## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>287</u>	Site Location Description: <u>Site 287 duplicate III</u> <span style="float: right;">8P 7-12-05</span>
Site GPS Coordinates: <u>40.26858°N, 95.01008°W</u>	
Date & Time: <u>7/12/05</u>	Facility Name: <u>Graham WWTF</u>
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>
Current Weather Conditions: <u>Sunny, hot</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>
Photo Ids: Upstream: <u>226</u>	Downstream: <u>225</u> Other: <u>NA</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>forest area w/ some agriculture/cropland</u>	

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads <u>bridge</u>	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

#### Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

\*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

site 111 duplicate

## Stream Morphology:

## Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>12</u>	Length (ft): <u>50</u>	Avg. Depth (ft): <u>50 cm</u>	Max. Depth (ft): <u>90 cm</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec):	

## Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>15</u>	Length (ft): <u>75</u>	Avg. Depth (ft): <u>50 cm</u>	Max. Depth (ft): <u>70 cm</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec):	

## Substrate\*: (These values should add up to 100%.)

% Cobble	<u>60</u>	% Gravel	<u>25</u>	% Sand	<u>15</u>	% Silt	<u>45</u>	% Mud/Clay	<u>25</u>	% Bedrock
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## Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

None
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## Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shen Prater Date: 7/12/05Organization: Tetra Tech Position: Scientist

G.R. 7/12/05

0287-111-US-Revisited



0287-111-DS-Revisited



## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>287</u>	Site Location Description: <u>110 duplicate on CR. 330 on wooden bridge</u>
Site GPS Coordinates: <u>40.24258°N, 95.02247°W</u>	
Date & Time: <u>7/12/05 9:30 am</u>	Facility Name: <u>Graham WWTF</u>
Personnel: <u>SP, YR</u>	Permit Number: <u>NA</u>
Current Weather Conditions: <u>Sunny, Warm</u>	Weather Conditions for Past 7 days: <u>Sunny, hot</u>
Photo Ids: Upstream: <u>222</u>	Downstream: <u>223</u> Other: <u>224 (garbage)</u>

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Agriculture/cropland w/ some forest area &amp; forest buffer</u>	

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads/bridge	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: <u>Some trash, probably thrown from bridge</u>				

#### Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

\*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Site 110 duplicate

## Stream Morphology:

## Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>15</u>	Length (ft): <u>50</u>	Avg. Depth (ft): <u>0.5</u>	Max. Depth (ft): <u>1.0</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft / 38.2 sec</u>	

SP 7/12

## Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>5</u>	Length (ft): <u>30</u>	Avg. Depth (ft): <u>0.25</u>	Max. Depth (ft): <u>0.5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec): <u>5 ft / 7 sec</u>	

SP 7/11/05

## Substrate\*: (These values should add up to 100%.)

up:	% Cobble	% Gravel	<u>50</u>	% Sand	% Silt	<u>50</u>	% Mud/Clay	% Bedrock
down:	<u>10% cobble</u>	<u>40% gravel</u>	<u>25% sand</u>			<u>25% mud</u>		

## Aquatic Vegetation\*: (note amount of vegetation or algal growth at the assessment site)

none

## Water Characteristics\*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Shawn P. Smith Date: 7/12/05Organization: Tetra Tech Position: Scientist

J.R. 7/12/05



0287-110-US-Revisited



0287-110-DS-Revisited



## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

109 DUP

Missouri WBID #: 0287	Site Location Description: Bridge on CR353	
Site GPS Coordinates: 40.21356 N 95.03485 W		
Date & Time: 7/12 0900	Facility Name: Graham WWTF	
Personnel: DW GB	Permit Number: N/A	
Current Weather Conditions: Warm Dry	Weather Conditions for Past 7 days: Warm Dry	
Photo Ids: Upstream: 220	Downstream: 218	Other:

219 (Fence)  
221 (Livestock path)

#### Uses Observed\*:

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)

#### Surrounding Conditions\*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Ag Fields E & W of Stream	

↳ Crosses stream under bridge

#### Evidence of Human Use\*:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input checked="" type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

**Site Locations Map(s):** Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest. (Include photographs)

\*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.



**Stream Morphology:**

**Upstream View Physical Dimensions:**

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>20</u>	Length (ft): <u>10</u>	Avg. Depth (ft): <u>0.25</u>	Max. Depth (ft): <u>0.5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec):	<u>1 ft/sec</u>

dw 7/12

**Downstream View Physical Dimensions:**

<input checked="" type="checkbox"/> Riffle	Width (ft): <u>10</u>	Length (ft): <u>10</u>	Avg. Depth (ft): <u>0.25</u>	Max. Depth (ft): <u>0.5</u>
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft <sup>3</sup> /sec):	<u>5 = 1 ft/sec</u>

dw 7/12

**Substrate\*:** (These values should add up to 100%.)

<u>U</u>	% Cobble	<u>10</u>	% Gravel	<u>70</u>	% Sand	<u>20</u>	% Silt	<u>20</u>	% Mud/Clay	% Bedrock
<u>D</u>	<u>30</u>	<u>20</u>	<u>50</u>							

**Aquatic Vegetation\*:** (note amount of vegetation or algal growth at the assessment site)

<u>NONE</u>
-------------

**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>Brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

**Comments:** Please attach additional comments (including information from interviews) to this form.

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: James A. Bill Date: 7/12/05  
 Organization: TF, INC. Position: SCIENTIST

DW 7/12/05

0287-109-US-Revisited



0287-109-DS-Revisited

